

Appln No. 10/040,977

Amdt date June 27, 2005

Reply to Office action of March 24, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-23. (Canceled).

24. (Currently Amended) A method for atrial defibrillation in a patient in need thereof comprising:

introducing into the patient a catheter comprising:

an elongated catheter body having proximal and distal ends and at least one lumen therethrough, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly having proximal and distal ends and comprising a plurality of spines connected at their proximal and distal ends, each spine comprising an elongated spine electrode along its length, the electrode assembly having an expanded arrangement wherein the spines bow radially outwardly and a collapsed arrangement wherein the spines are arranged generally along the axis of the catheter body;

introducing the electrode assembly into the heart of the patient; and

applying defibrillation energy to [[the]] tissue of the heart through one or more of the elongated electrodes, wherein defibrillation energy is delivered to the heart tissue through only a portion of the spine electrodes, leaving one or more

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spine electrodes through which defibrillation energy is not delivered to the heart tissue, wherein the spine electrodes through which defibrillation energy is delivered are shorted together.

25. (Original) The method of claim 24, wherein defibrillation energy is delivered to the heart tissue through at least half of the spine electrodes.

26. (Canceled).

27. (Previously Presented) The method of claim 24, wherein the one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue are shorted together and function as a return electrode for the defibrillation energy.

28 -30. (Canceled).

31. (Currently Amended) A system for atrial defibrillation in a patient comprising:

a catheter comprising:

an elongated catheter body having proximal and distal ends, a length of about 90 cm, and at least one lumen therethrough, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly having proximal and distal ends and comprising a plurality of spines connected at

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their proximal and distal ends, each spine comprising an elongated spine electrode along its length, the electrode assembly having an expanded arrangement wherein the spines bow radially outwardly and a collapsed arrangement wherein the spines are arranged generally along the axis of the catheter body;

an external defibrillator electrically connected to the catheter; and

an interface switch box that connects the external defibrillator to the catheter and that permits the selection of the spine electrodes through which defibrillation energy is to be delivered.

32. (Original) The system of claim 31, further comprising an ECG recorder electrically connected to the catheter through the interface switch box.

33. (Original) The system of claim 32, wherein the catheter further comprises one or more ring electrodes mounted at or near the distal end of the catheter body.

34. (Original) The system of claim 31, further comprising an external pacer electrically connected to the catheter through the interface switch box.

35. (Original) The system of claim 34, wherein the catheter further comprises a tip electrode mounted at the distal end of the electrode assembly.

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36.-38 (Canceled)

39. (Original) The system of claim 31, wherein each spine comprises a flexible wire having proximal and distal ends, wherein at least a portion of the flexible wire forms the elongated electrode.

40. (Original) The system of claim 31, wherein the electrode assembly comprises at least three spines.

41. (Original) The system of claim 31, wherein the electrode assembly comprises at least five spines.

42. (Canceled).

43. (Previously Presented) A system for atrial defibrillation in a patient comprising:

a catheter comprising:

an elongated catheter body having proximal and distal ends, a length of at least about 90 cm, and at least one lumen therethrough, the catheter body having one or more ring electrodes mounted at or near its distal end, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly having proximal and distal ends and comprising at least three spines connected at their proximal and distal ends, each spine comprising an elongated spine electrode along its length, wherein each spine

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electrode has a length ranging from about 30 mm to about 80 mm, the electrode assembly having an expanded arrangement wherein the spines bow radially outwardly and a collapsed arrangement wherein the spines are arranged generally along the axis of the catheter body, the electrode assembly having a tip electrode mounted at its distal end;

an external defibrillator connected to the catheter;

an interface switch box that connects the external defibrillator to the catheter and that permits the selection of spine electrodes through which defibrillation energy is to be delivered;

an ECG recorder electrically connected to the catheter through the interface switch box; and

an external pacer electrically connected to the catheter through the interface switch box.

44. (New) A method for atrial defibrillation in a patient in need thereof comprising:

introducing into the patient a catheter comprising:

an elongated catheter body having proximal and distal ends and at least one lumen therethrough, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly having proximal and distal ends and comprising a plurality of spines connected at their proximal and distal ends, each spine comprising an elongated spine electrode along its length, the electrode assembly having an expanded arrangement wherein the spines bow radially outwardly and a collapsed arrangement wherein the

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spines are arranged generally along the axis of the catheter body;

introducing the electrode assembly into the heart of the patient; and

applying defibrillation energy to the tissue of the heart through selected ones of the spine electrodes, leaving one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue, wherein the one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue are shorted together and function as a return electrode for the defibrillation energy.

45. (New) A method for atrial defibrillation in a patient in need thereof comprising:

introducing into the patient a catheter comprising:

an elongated catheter body having proximal and distal ends and at least one lumen therethrough, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly comprising a plurality of spine electrodes and having an expanded arrangement and a collapsed arrangement;

introducing the electrode assembly into the heart of the patient; and

applying defibrillation energy to tissue of the heart through selected ones of the spine electrodes, leaving one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue, wherein the spine electrodes

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through which defibrillation energy is delivered are shorted together.

46. (New) A method for atrial defibrillation in a patient in need thereof comprising:

introducing into the patient a catheter comprising:

an elongated catheter body having proximal and distal ends and at least one lumen therethrough, and

a basket-shaped electrode assembly at the distal end of the catheter body, the electrode assembly comprising a plurality of spine electrodes and having an expanded arrangement and a collapsed arrangement;

introducing the electrode assembly into the heart of the patient; and

applying defibrillation energy to tissue of the heart through selected ones of the spine electrodes, leaving one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue, wherein the one or more spine electrodes through which defibrillation energy is not delivered to the heart tissue are shorted together and function as a return electrode for the defibrillation energy.